

CLAIMS

1. A electronic device, comprising:
 - 2 a base portion;
 - a movable portion having an edge nearest the base portion; and
 - 4 a hinge mechanism that enables the edge of the movable portion nearest the base portion to translate in relation to the base portion as the movable portion is rotated
 - 6 during opening of the electronic device.
2. The electronic device of claim 1 wherein the electronic device is a portable computer.
3. The electronic device of claim 1 wherein the electronic device is a personal digital assistant.
4. The electronic device of claim 1 wherein the device is a dedicated word processor.
5. The electronic device of claim 1 wherein the device is a viewer for a Digital Versatile Disc.
6. An electronic device, comprising:
 - 2 a base portion
 - a groove formed in the base portion;
 - 4 a movable portion having a guiding feature that engages the groove; and
 - a link having a first link end attached to a first pivot on the base portion, and
 - 6 having a second link end attached to a second pivot on the moveable portion;
 - and wherein the link constrains the relative motion of the base portion and the
 - 8 movable portion such that the electronic device opens as the guiding feature travels along the groove.

7. The electronic device of claim 6, wherein the moveable portion comprises a
2 display screen.
8. The electronic device of claim 6, further comprising:
2 a second groove formed in the base portion;
4 a second guiding feature on the moveable portion engaging the second groove;
and
a second link connecting pivots on the base portion and the movable portion.
9. The electronic device of claim 6, further comprising a friction-inducing device
2 that resists relative motion of the base and movable portions.
10. The electronic device of claim 9 wherein the friction-inducing device is a wrap
2 spring friction clutch.
11. The electronic device of claim 9, further comprising:
2 a shaft journaled in the moveable portion, one end of the shaft being the guiding
feature;
4 a gear fixedly attached to the shaft; and
a gear rack formed in the base portion such that the gear engages the gear rack
6 when the guiding feature engages the groove.
12. The electronic device of claim 11, further comprising a spring wrapped around the
2 shaft and constrained such that the spring does not rotate in relation to the
moveable portion when the shaft rotates.

13. The electronic device of claim 9 wherein the friction-inducing device holds the
2 fixed and moveable portions in a relationship set by a user of the electronic
device, and enables adjustability of the relationship.
14. The electronic device of claim 6 wherein the electronic device is a portable
2 computer.
15. The electronic device of claim 6 wherein the electronic device is a dedicated word
2 processor.
16. The electronic device of claim 6 wherein the electronic device is a personal digital
2 assistant.
17. The electronic device of claim 6 wherein the electronic device is a viewer for a
2 Digital Versatile Disc.
18. An electronic device, comprising:
2 means for translating an edge of a moveable portion of the electronic device in
relation to a base portion of the electronic device as the moveable portion is
4 rotated in the process of opening the electronic device; and
means for inducing friction that resists relative motion of the movable and base
6 portions.
19. A hinge mechanism for an electronic device, comprising:
2 a groove in a first portion of the electronic device;
a guiding feature on a second portion of the electronic device, the guiding feature
4 engaging the groove;

6 a link connecting a first pivot on the first portion of the electronic device with a
second pivot on the second portion of the electronic device and constraining the
relative motion of the first and second portions such that the electronic device
8 opens as the guiding feature travels along the groove.

20. The hinge mechanism of claim 19 further comprising a friction-inducing device
2 that resists relative motion of the two portions.

21. The hinge mechanism of claim 20 wherein the friction-inducing device is a wrap
2 spring friction clutch.

22. The hinge mechanism of claim 19, further comprising:
2 a gear rack formed in the first portion of the electronic device;
a gear attached to the second portion coaxial with the guiding feature, the gear
4 engaging the gear rack when the guiding feature engages the groove; and
a shaft fixedly attached to the gear and journaled in the second portion of the
6 electronic device.

23. The hinge mechanism of claim 22, further comprising a spring wrapped around
2 the shaft such that friction between the spring and shaft resists rotation of the
shaft.